

IN THE CLAIMS

The current claims for this application are listed below.

1. (Original) A digital processing implemented method for processing a data set enabling interactive random access for different views of an object, said method comprising:

storing a plurality of frames of said object, said plurality of frames representing a set of views of said object;
assigning a reference number to each of said plurality of frames;
arranging said plurality of frames in a preferred layout; and
dividing said preferred layout into a plurality of blocks having frames sharing spatial similarities and compressing each of said plurality of blocks separately.

2. (Original) A method as in claim 1 further comprising selecting at least one key frame and a plurality of non-key frames for each of said plurality of blocks and compressing each of said non-key frame and said key frame for each of said plurality of blocks separately such that a compressing sequence includes going away from said key frame until reaching a boundary of each of said plurality of blocks to cover each of said non-key frames.

3. (Original) A method as in claim 2 wherein a longest compressing path of any one of said non-key frames and said key frame is less than a predetermined number of frames from said key frame.

4. (Original) A method as in claim 3 further comprising including a video track layout for said set of views, said video track layout making references to a data source

track, said data source track to comprise compressed data for said set of views wherein each of said at least one key frame and said non-key frames is compressed only once and is referenced as many times as necessary by said video track layout.

5. (Original) A method as in claim 4 wherein each of said video track, wherein at least one key frame is near a center of each of said plurality of blocks.

6. (Original) A method as in claim 5 wherein each of said plurality of blocks has a size that is one of equal to a predetermined size and smaller than said predetermined size.

7. (Original) A method as in claim 6 wherein said preferred layout is a two-dimensional array.

8. (Original) A method as in claim 7 further comprising:
dividing said preferred layout such that a smaller size block is at a further top and a further left corner of said preferred layout and a larger size block is at a further bottom and a further right corner of said preferred layout; and
selecting said at least one key frame such that said at least one key frame is closer to a further top and a further left corner of each of said plurality of blocks.

9. (Original) A method as in claim 8 wherein a frame differencing compression method is used to compress each of said plurality of blocks separately.

10. (Original) A method as in claim 1 wherein said method is performed by a server computer system.

11. (Original) A method as in claim 10 wherein said method is performed by a world-wide web server.
12. (Original) A method as in claim 9 wherein said method is performed by a server computer system.
13. (Original) A method as in claim 12 wherein said method is performed by a world-wide web server.
14. (Original) A digital processing implemented method for receiving and using a data set enabling interactive random access for different views of an object, said method comprising:
- transmitting a request to receive said data set, said data set including frames of said object, said frames representing views of said object; and
 - receiving said data set wherein said frames were arranged in a preferred layout, said preferred layout was divided into a plurality of blocks wherein each of said plurality of blocks was compressed separately.
15. (Currently amended) A method as in claim 14 ~~wherein~~ wherein said an input ~~further comprising is used for~~ manipulating said object using a cursor which is displayed on a display device.
16. (Currently amended) A method as in claim 15 further comprising:
- receiving ~~an said~~ input which requests a selected number of said views;
 - mapping said input to a selected appropriate number of frames in said frames; and
 - decompressing said selected appropriate number of frames.

17. (Original) A method as in claim 16 further comprising:
storing said selected appropriate number of frames that are compressed; and
allowing a user to playback said selected number of said views in a movie-like
sequence.
18. (Original) A method as in claim 17 wherein said method is performed by a
digital processing system and wherein said data set is received from a server computer
system.
19. (Original) A method as in claim 14 wherein said data set further comprises at
least one key frame and a plurality of non-key frames for each of said plurality of blocks,
each of said at least one key frame was compressed prior to said non-key frames such that a
compressing sequence includes going away from said key frame until reaching a boundary
of each of said plurality of blocks to cover each of said non-key frames.
20. (Original) A method as in claim 19 wherein said preferred layout, said plurality
of blocks, said at least one key frame, and said plurality of non-key frames were arranged
such that a longest compressing path of any one of said non-key frames and said key frame
is less than a predetermined number of frames from said key frame.
21. (Original) A method as in claim 20 wherein said data set further comprising a
video track layout for said views, said video track layout making references to a data source
track, said data source track including compressed data for said views wherein each of said
at least one key frame and said non-key frames is compressed only once and is referenced
as many times as necessary by said video track layout.

22. (Original) A method as in claim 21 wherein each of said at least one key frame is near a center of each of said plurality of blocks.

23. (Original) A method as in claim 22 wherein each of said plurality of blocks has a size that is one of equal to a predetermined size and smaller than said predetermined size.

24. (Original) A method as in claim 23 wherein said preferred layout is a two-dimensional array.

25. (Original) A method as in claim 24 wherein said preferred layout is divided such that a smaller size block is at a further top and a further left corner of said preferred layout and a larger size block is at a further bottom and a further right corner of said preferred layout and wherein said at least one key frame is closer to a further top and a further left corner of each of said plurality of blocks.

26. (Original) A method as in claim 25 wherein said method is performed by a digital processing system and wherein said data set is received from a server computer system.

27. (Original) A method as in claim 26 wherein a frame differencing compression method is used to separately compress each of said plurality of blocks.

28. (Original) A computer readable storage medium containing executable computer program instructions which when executed cause a digital processing

implemented method for processing a data set enabling interactive random access for different views of an object, said method comprising:

storing a plurality of frames of said object, said plurality of frames representing a set of views of said object;

assigning a reference number to each of said plurality of frames;

arranging said plurality of frames in a preferred layout; and

dividing said preferred layout into a plurality of blocks having frames sharing spatial similarities and compressing each of said plurality of blocks separately.

29. (Original) A computer readable storage medium as in claim 28 further comprising selecting at least one key frame and a plurality of non-key frames for each of said plurality of blocks and compressing each of said non-key frame and said key frame for each of said plurality of blocks separately such that a compressing sequence includes going away from said key frame until reaching a boundary of each of said plurality of blocks to cover each of said non-key frames.

30. (Original) A computer readable storage medium as in claim 29 wherein said dividing said preferred layout into a plurality of blocks and said selecting at least one key frame and a plurality of non-key frames for each of said plurality of blocks are such that a longest compressing path of any one of said non-key frames and said key frame is less than a predetermined number of frames from said key frame.

31. (Original) A computer readable storage medium as in claim 30 further comprising including a video track layout for said set of views, said video track layout making references to a data source track, said data source track to comprise compressed

data for said set of views wherein each of said at least one key frame and said non-key frames is compressed only once and is referenced as many times as necessary by said video track layout.

32. (Original) A computer readable storage medium as in claim 31 wherein each of said video track at least one key frame is near a center of each of said plurality of blocks.

33. (Original) A computer readable storage medium as in claim 32 wherein each of said plurality of blocks has a size that is one of equal to a predetermined size and smaller than said predetermined size.

34. (Original) A computer readable storage medium as in claim 33 wherein said preferred layout is a two-dimensional array.

35. (Original) A computer readable storage medium as in claim 34 further comprising:

dividing said preferred layout such that a smaller size block is at a further top and a further left corner of said preferred layout and a larger size block is at a further bottom and a further right corner of said preferred layout; and
selecting said at least one key frame such that said at least one key frame is closer to a further top and a further left corner of each of said plurality of blocks.

36. (Original) A computer readable storage medium as in claim 35 wherein a frame differencing compression method is used to compress each of said plurality of blocks separately.

37. (Original) A computer readable storage medium as in claim 28 wherein said method is performed by a server computer system.

38. (Original) A computer readable storage medium as in claim 36 wherein said method is performed by a server computer system.

39. (Original) A computer readable storage medium containing executable computer program instructions which when executed cause a digital processing implemented method for receiving and using a data set enabling interactive random access for different views of an object, said method comprising:

transmitting a request to receive said data set, said data set including frames of said object, said frames representing views of said object; and
receiving said data set wherein said frames were arranged in a preferred layout, said preferred layout was divided into a plurality of blocks wherein each of said plurality of blocks was compressed separately.

40. (Currently amended) A computer readable storage medium as in claim 39 wherein ~~an wherein said input further comprising~~ is used for manipulating said object using a cursor which is display on a display device.

41. (Currently amended) A computer readable storage medium as in claim 40 further comprising:

receiving ~~an~~ said input which requests a selected number of said views;
mapping said input to a selected appropriate frames in said frames; and
decompressing said selected appropriate frames.

42. (Original) A computer readable storage medium as in claim 41 further comprising:

storing said appropriate frames that are compressed; and

allowing a user to playback said selected number of said views in a movie-like sequence.

43. (Original) A computer readable storage medium as in claim 42 wherein said method is performed by a digital processing system and wherein said data set is received from a server computer system.

44. (Original) A computer readable storage medium as in claim 43 wherein said data set further comprises at least one key frame and a plurality of non-key frames for each of said plurality of blocks, each of said at least one key frame was compressed prior to said non-key frames such that a compressing sequence includes going away from said key frame until reaching a boundary of each of said plurality of blocks to cover each of said non-key frames.

45. (Original) A computer readable storage medium as in claim 44 wherein said preferred layout, said plurality of blocks, said at least one key frame, and said plurality of non-key frames were arranged such that a longest compressing path of any one of said non-key frames and said key frame is less than two frames from said key frame.

46. (Original) A computer readable storage medium as in claim 45 wherein said data set further comprising a video track layout for said views, said video track layout making references to a data source track, said data source track including compressed data for said views wherein each of said at least one key frame and said non-key frames is

compressed only once and is referenced as many times as necessary by said video track layout.

47. (Original) A computer readable storage medium as in claim 46 wherein each of said at least one key frame is near a center of each of said plurality of blocks.

48. (Original) A computer readable storage medium as in claim 47 wherein each of said plurality of blocks has a size that is one of equal to a predetermined size and smaller than said predetermined size.

49. (Original) A computer readable storage medium as in claim 48 wherein said preferred layout is a two-dimensional array.

50. (Original) A computer readable storage medium as in claim 49 wherein said preferred layout is divided such that a smaller size block is at a further top and a further left corner of said preferred layout and a larger size block is at a further bottom and a further right corner of said preferred layout and wherein said at least one key frame is closer to a further top and a further left corner of each of said plurality of blocks.

51. (Original) A computer readable storage medium as in claim 50 wherein said method is performed by a digital processing system and wherein said data set is received from a server computer system.

52. (Original) A computer readable storage medium as in claim 51 wherein a frame differencing compression method is used to separately compress each of said plurality of blocks.

53. (Original) A digital processing system for processing a data set enabling interactive random access for different views of an object, said system comprising:

- means for storing a plurality of frames of said object, said plurality of frames representing a set of views of said object;
- means for assigning a reference number to each of said plurality of frames;
- means for arranging said plurality of frames in a preferred layout; and
- means for dividing said preferred layout into a plurality of blocks having frames sharing spatial similarities and compressing each of said plurality of blocks separately.

54. (Original) A system as in claim 53 further comprising means for selecting at least one key frame and a plurality of non-key frames for each of said plurality of blocks and means for compressing said at least one key frame prior to compressing non-key frames such that a compressing sequence includes going away from said key frame until reaching a boundary of each of said plurality of blocks to cover each of said non-key frames.

55. (Original) A system as in claim 54 wherein said dividing said preferred layout into a plurality of blocks and said selecting at least one key frame and a plurality of non-key frames for each of said plurality of blocks is such that a longest compressing path of any one of said non-key frames and said key frame is less than a predetermined number of frames from said key frame.

56. (Original) A system as in claim 55 further comprises means for including a video track layout for said set of views, said video track layout making references to a data

source track, said data source track to comprise compressed data for said set of views wherein each of said at least one key frame and said non-key frames is compressed only once and is referenced as many times as necessary by said video track layout.

57. (Original) A digital processing implemented system for receiving and using a data set enabling interactive random access for different views of an object, said system comprising:

means for transmitting a request to receive said data set, said data set including frames of said object, said frames representing views of said object; and means for receiving said data set wherein said frames were arranged in a preferred layout, said preferred layout was divided into a plurality of blocks wherein each of said plurality of blocks was compressed separately.

58. (Currently amended) A system as in claim 57 ~~wherein said~~ wherein an input ~~further comprising means~~ is used for manipulating said object using a cursor which is displayed on a display device.

59. (Currently amended) A system as in claim 58 further comprising:
means for receiving ~~an~~ said input which requests a selected number of said views;
means for mapping said input to a selected appropriate frames in said frames; and
means for decompressing said selected appropriate frames.

60. (Original) A system as in claim 58 further comprising:
means for storing said appropriate frames that are compressed; and
means for allowing a user to playback said selected number of said views in a movie-like sequence.

61. (Original) A system as in claim 60 wherein said data set further comprising at least one key frame and a plurality of non-key frames for each of said plurality of blocks, each of said at least one key frame was compressed prior to said non-key frames such that a compressing sequence includes going away from said key frame until reaching a boundary of each of said plurality of blocks to cover each of said non-key frames.

62. (Original) A system as in claim 61 wherein said preferred layout, said plurality of blocks, said at least one key frame, and said plurality of non-key frames were arranged such that a longest compressing path of any one of said non-key frames and said key frame is less than two frames from said key frame.

63. (Original) A system as in claim 62 wherein said data set further comprising a video track layout for said views, said video track layout making references to a data source track, said data source track including compressed data for said views wherein each of said at least one key frame and said non-key frames is compressed only once and is referenced as many times as necessary by said video track layout.